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Can Our High Schools Do the Job?

■ What educators know as "comprehensive" high schools are known to most of us simply as the Abraham Lincoln or Washington and Lee or Thomas Alva Edison High School we went to in our home town. But educators call them "comprehensive" because they offer, under one administration and under one roof or series of roofs, secondary education for almost all the high school age children of one town or, in a big city, of one neighborhood. They are responsible for educating the boy who will be an atomic scientist and the girl who will marry at 18; the prospective captain of a ship and the future captain of industry.

Is it really possible to provide appropriate and adequate education within one school for the bright and the not so bright, for children with various motivations, for many with different vocational or professional ambitions? Does not the attempt to do so result in a mishmash of educational fare suitable for no one? And is not the attempt made at the special expense of that 15 or 20 per cent of the intellectually most able from whom our future leaders must be drawn?

Some leading public figures say the answer to these questions is "yes." They believe that the high schools, as they are now constituted, cannot do the job that needs to be done. But to one distinguished observer and student of American high schools, the answer is "no—if." Not all high schools are now doing the job, but some are, and most *can*.

During the past 12 months James B. Conant has been moving without fanfare (or with as little fanfare as a man of his eminence can move) about the country making a study of our high schools. A chemist, former president of Harvard, former ambassador, lifetime student of American and comparative education, Dr. Conant has by now personally visited some 50 high schools in 18 states, East, West, North, and South. By the end of the year, he and a small staff working with him will have first-hand information about 100 schools in 20 states. The study is being done under a Carnegie grant to the Educational Testing Service.

Dr. Conant asked endless questions of the principals, teachers, and students in the schools he visited, and sat in many classes. He discussed detailed questions of curriculum and organization with more than 500 students in groups of 10 to 20 (and points out that the youngsters' views are often expressed in startlingly frank



terms in the absence of teachers or administrators). He talked over educational problems with more than 1,500 high school teachers in groups ranging from 3 to 30.

He concentrated on schools which may be considered as truly comprehensive—senior high schools of sufficient size (at least 1,000 students) to provide adequate education for all types of youth, located in communities where not more than half the students proceed to a four-year college or engineering school or university, and where the distribution of academic ability corresponds to the national average.

Dr. Conant's conclusions are presented in tones and terms so non-dramatic as to become dramatic by that fact. Always the scientist, he refuses to fall into the error of talking about schools in general terms without reference to the type of community they serve, and insists that one must talk about specific kinds of problems in particular kinds of schools. He is willing, however, to make certain assertions about what can

be done in the kinds of schools he is talking about—what can be done for all the students in them, and in particular for the talented ones.

"I am convinced," he says, "that a satisfactory course of study for the bright boy or girl can be offered in the public high school which is of a general or comprehensive type. I am further convinced that the students in the comprehensive school derive certain advantages from their school years which are denied to their contemporaries in special schools."

He doesn't think it is going to be easy, or that easy does it. In fact, he has some firm ideas as to what it takes to make it happen. In the first place, a "satisfactory course of study" for the academically talented would mean that all of the bright youngsters would be studying five solid subjects in each of the four high school years, and by solid subjects Dr. Conant means English, history, mathematics, science, and foreign languages. They should do 15 to 20 hours of signifi-

Teachers are Planning for the Job

■ The National Education Association has been a powerful force in American public education since its founding 100 years ago. Last February it sponsored a conference on educating the academically talented in secondary schools. Under Dr. Conant's chairmanship, and with the aid of a Carnegie grant, some 200 individuals—secondary school teachers, professors, administrators, research scholars, representatives of both public and independent schools—met to discuss both the identification and the education of the above-average student.*

The talented can be identified, it was agreed; usually in the elementary grades, certainly by the eighth grade. There was unanimous agreement as to

the importance of counselors and the guidance system in general. And it was pointed out that in some communities reorientation of public opinion is required if we are to move ahead.

As for how the talented should be educated when they have been identified, it was agreed that grouping in each subject on different ability levels is necessary. The grouping should be done according to ability subject by subject, not with a mechanical separation into a fixed curriculum of all pupils with an I.Q. above a certain level.

For the very gifted (from 2 to 5 per cent of the student body), the conference endorses the idea of advanced college placement programs. Pupils take college level courses in such subjects as English literature and composition, history, foreign languages, advanced mathematics, and science. They graduate from school with their own class, but enter college with advanced standing and, in some colleges, with credit toward a degree.

For what you might call the "talented"—those below the very top in ability but still in the upper fifth—the conference recommended:

Foreign Language—Minimum continuous sequence of four full years, or its equivalent in achievement, in at least one modern foreign language.

Social Studies—At least three years of advanced work, including: one year of American history, one year of history other than American, one year in other social studies.

Science—Minimum requirements: one course in biology, one in physical science.

Mathematics—Minimum of three years; students with special talents in mathematics and science should continue for a fourth or even fifth year.

English—Four years of regular English (not including journalism, speech, drama) with emphasis on: critical reading of a wide range of literature; and writing, both expository and creative.

* A printed summary of the conference recommendations is available from the National Education Association, 1201 16th Street N.W., Washington 6, D. C.

cant homework each week. All of them should acquire something like a mastery of at least one foreign language, which will require at least three years of hard work; all of them should complete at least three years of mathematics (and maybe four); all of them should take physics or chemistry, or both, as well as a course in biology.

Dr. Conant breaks down the ideal course of study for students with various types of academic orientation or aptitude. Thus, for those who show ability in science, he would prescribe three or four years of one foreign language, four years of mathematics, and three years of science. For those with less interest in science, he would suggest taking perhaps only two years of science and three years of mathematics. This program would make room for three years of a second foreign language.

These courses would be in addition to those which would be required of *all* the pupils in a satisfactory high school: four years of English and four years of history or related social studies. It is here that one of the most controversial questions in American education is encountered: whether or not, in these required general courses, the students should be grouped according to their ability. Dr. Conant says yes. From what he has heard from administrators, teachers, and particularly from the free expression of opinion by *students*, he has been persuaded that some degree of grouping in terms of ability in the English and history classes is in the best interest of all concerned. The same would be true for the science, mathematics, and foreign language courses if they were elected by students without considerable academic ability, but under a proper counseling and guidance program very few such pupils would take those courses.

Dr. Conant found that the schools he visited which seem to be doing the best job are those in which there are three or four kinds of English sections in grades nine through twelve. One group of sections is for the boys and girls who are particularly bright in English; another accommodates the 10 or 15 per cent of those who, by any test, are not capable of doing work in



English at the level of the majority. Another group of sections is composed of those of average ability.

The same kind of sectioning is used in the ninth grade biology or general science course (which he believes should be taken by all students). It applies also to the ninth, tenth, and eleventh grade history or social studies classes. But in twelfth grade social studies, which usually comprises study and oral discussion of American government and contemporary problems, Dr. Conant believes the mixing of students with a variety of vocational goals is desirable.

He is well-versed in the argument most often used against sectioning by ability, namely, that it tends to reduce social cohesion among the student body. He believes that producing such cohesion is a proper function of the school; he agrees that the future factory owner and the future lathe-operator should, in school, learn to know and to respect

each other as human beings. It is, in fact, the primary reason why he argues for educating the talented in comprehensive schools rather than in special institutions. He believes, however, that this important aim is not served in any significant manner, if at all, by having students of widely different abilities in the same history or English sections.

■ How then is social cohesion to be achieved? In several ways. Dr. Conant believes the most effective is using homerooms for this purpose. Homerooms should be assembled from students of all sorts of abilities and interests, kept together throughout the high school years, and should play a real part in student activities through an effective student council. The twelfth grade social studies class will bring all kinds of students together in discussing those problems which they will share as full citizens when they are of age. Finally, there are all sorts of extracurricular activities and sports in which everyone can participate.

Implicit in all of Dr. Conant's recommendations is the assumption that each school will have a good guidance system. It is, he says, "the keystone of the arch of public education." In a free country it is not

enough, he reminds us, merely to offer a sound education; boys and girls and their parents must be persuaded to accept the best that is offered, the best in each case being what is the most appropriate to stretch each youngster to the limit of his capabilities. All kinds of pressures—economic, social, and parental—exist, and they vary greatly from place to place and from school to school. At one extreme, for example, is a suburban high school where perhaps 90 per cent of the parents have collegiate aspirations for their children—aspirations which simply cannot in all cases be strictly related to the abilities of the children. In an industrialized section of a big city, on the other hand, only 10 to 15 per cent of the parents may have any idea of sending their boys and girls on to college; yet perhaps 25 per cent of those children should go on. In both cases, Dr. Conant would be the first to admit, it takes a high degree of statesmanship to persuade students to elect the courses most suitable to their aptitudes.

Without minimizing the difficulties, Dr. Conant says: "It can be done. I have seen it done." He offers some advice as to how a guidance system may best be tested. The first and most important step in counseling is to identify each student's particular aptitudes and interests. This can be done in most cases, Dr. Conant is convinced, by the eighth grade. Most academically talented students can be recognized on the basis of what their individual teachers have to say about their ability, what their marks in school thus far have been, and how they perform on scholastic aptitude tests. (You will notice that he says "most." One of the beauties of the comprehensive school, Dr. Conant points out, is its flexibility: the "late bloomer" can easily be shifted to another course of study if previously undiscovered aptitudes become apparent during his high school years.) Once the administrators and guidance people are in possession of such information on each student, they should keep an "academic inventory" of the school. In other words, they should know who is taking what.

At the end of a four-year period, the inventory might show, for instance, that a substantial majority of the academically talented boys in the class just graduated had taken four years of mathematics, or it might show that only 10 per cent had

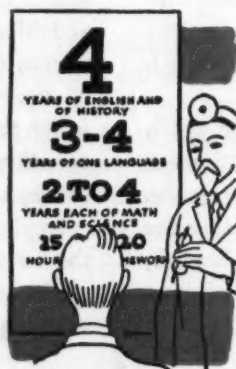
done so. The first result would indicate a good guidance system; the second would reflect the existence either of a poor guidance system or extraordinary parental resistance to good advice.

With respect to the counseling which is now being given the academically talented, Dr. Conant offers two major criticisms. One of the worst practices is the prevalent custom of advising, or allowing, students to take two years of each of two languages. This, he points out, is analogous to drilling for oil and stopping a couple of feet above the pool of black gold. Students should take at least three years, perhaps four, of any one foreign language. His other criticism has to do with the fact that not enough girls are encouraged to take more than a minimum of science and mathematics: the young ladies are not being made aware, he says, of the future waiting them in those fields.

■ This recital of some of Dr. Conant's opinions is, of course, only partial. It relates only to what he thinks should be done for the youngsters whose talents are primarily academic. He has things to say also about what kinds of programs should be offered those who probably will enter upon vocations shortly after leaving high school; about the small group at the bottom of the academic scale who cannot be properly educated in classes with the middle group; about what might be done for the *really* gifted—the top 2 or 3 per cent. His views on these and other subjects will be made clear in speeches he will be making over the course of the next year to state-wide educational and citizens' groups, and in a final report, the form of which has not yet been decided upon.

The public schools of the United States have been a powerful agent, perhaps the most powerful single agent, for "transforming a heterogeneous selection of mankind into a homogeneous nation,"

as Bertrand Russell once wrote. They have served certain political and social goals which the American people hold to be of the highest importance. The belief of such a man as James Conant that they can continue to serve these democratic principles without slighting the intellectual goals which are the aim of all education should hearten a people who care about both the minds and the hearts of their children.



Man with an Idea

■ A man named Joseph W. Cohen hit the University of Colorado more than 30 years ago with what must have been the effect of a small bomb—a constructive rather than destructive one. Born in Ireland and educated in Canada, he arrived at Boulder with passionate interests in philosophy, the game of squash, and bright students.

He embarked immediately on teaching philosophy. He saved the University from the fearful error of omitting squash courts from a fancy new gymnasium it was building. And he started what became an unceasing drive to “discover, save, challenge, motivate, mature, and if possible, bewitch, the promising, the gifted, the superior, wherever they are to be found.”

These exceptional people are to be found in large numbers in our big state universities. Like the public high schools, these public institutions also serve a clientele of varied ability; they too grapple with the problem of enriching the academic life of their superior students. Many have made efforts to provide such enrichment through what are called honors programs.

Professor Cohen points out that these programs take almost as many different forms as the campuses on which they are found. In some schools, to graduate “With Honors” means simply that the honored student has had a grade average of a certain level; this does not mean that his courses were any more challenging or rigorous than anyone else’s, but that he did better in them. More and more in recent years, however, colleges and universities have tried to provide a stimulation greater than mere recognition of excellence at the end of the race. Some encourage gifted students to undertake special reading, writing of papers, and discussion in the field of their specialization;

others have general honors programs which cut across department lines. Some allow students to “do honors” only in their junior and senior years; others send bright youngsters into honors work as freshmen or sophomores.

In short, a number of experiments are being carried on in various institutions, and these schools could doubtless profit from sharing information with each other about what they are doing. Communications between our many groves of academe being what they are, however, this kind of exchange is not always easy to effect. But a promising and fast start has been made by the recently formed Inter-University Committee on the Superior Student (ICSS), headed by none other than Joseph W. Cohen. In the years he has been at Boulder he has gathered plenty of experience for the job. In the late 1920’s he served on the committee which laid the plans for Colorado’s first honors program; he has been a member of the honors staff from the very beginning, and has been director of the program since 1943. This was not his full-time job, however. That lay in the philosophy department, where the blue-eyed, white-haired professor’s favorite course was philosophy in literature.

■ Last June, 48 educators met, with financial support from the Rockefeller Foundation, to talk over programs for superior students. They made plans for a new organization, received a three-year Carnegie grant in January of this year, and went into business on February 1. Last month the first issue of *The Superior Student*, a handsome little publication adorned by an Athenian owl, was off the press. This ICSS newsletter will be published monthly during the academic year and will be sent to all tax-supported four-year colleges and

universities, private ones with enrollments of 2,000 or more, and other institutions which request it.

The ICSS, which is composed of representatives of tax-supported institutions, is not committed to any one kind of honors program. The members believe that different kinds of programs will be appropriate for different kinds of schools. They also believe, however, that there are certain basic ingredients that make an honors program click.

Professor Cohen has a handy little list of the ingredients, a recipe he is willing to share with one and all. First, programs for superior students should start as early as possible; the students should be recruited the moment they enter college. Second, the freshman and sophomore years are just as crucial for honors as the upper division years, perhaps more so. This means that a general honors program should be set up to exercise its influence long before specialization begins in the upper division. Then, there should be full-fledged departmental honors programs accompanying the general honors program.

In any large university, Mr. Cohen believes, there should be many sorts of programs for the variety of superior students—honors groups and seminars of all kinds, specially designed courses, independent projects, summer projects.

Finally, an honors council, with a director and a counseling staff, should be established to manage the program. The council should work out procedures for examinations—both written and oral. There should be a special center for honors students, with a browsing library and periodical room.

All of this, Professor Cohen points out, must be paid for “in the coin of the realm.” The primary obstacle to building real programs for superior students has been that good honors programs cost money. “They should,” he says. “We are confronted with quantity and we are going into the educational market to buy quality.”

Teaching Math in the Twentieth Century

■ A competent Renaissance mathematician, if he were to come back to earth from whatever Valhalla he has been enjoying for the past 300 years, could teach your child the mathematics which is now being taught in most schools in the United States. This fact is not so much a tribute to the omniscience of our imaginary Seventeenth Century scholar as a reflection on the secondary mathematics courses, which by and large have taken little notice of what has happened to the subject over the years. Important efforts, however, are now being made to make the teaching of mathematics meet the demands of the times; one which is almost certain to be far-reaching in its effects is that of the College Entrance Examination Board's Commission on Mathematics.

Each year, as is well known by thousands of young Americans, the College Board gives a series of examinations which have a strong bearing on who gets into what college, as well as where a student is placed in various subjects in the college. Two of these examinations, given during the junior and senior high school years, are tests of achievement in mathematics. The news of prospective changes in those tests is likely to have a profound influence on what mathematics is taught in the nation's high schools.

■ The Board's Commission on Mathematics is composed of representatives of public and independent colleges and universities, liberal arts colleges, technological institutes, teachers colleges, and public and private secondary schools. For three years, with the aid of Carnegie money, they have been working on a series of recommendations for curricular revision, as well as on vari-

ous publications which will help teachers and school administrators. A near-final report is now being circulated to hundreds of teachers, department heads, and state officials for their comments and suggestions; the Commission's recommendations will be presented formally this fall.

■ The Commission does not, repeat not, recommend a "revolution" in course content. Algebra, geometry, and trigonometry always have been, and presumably always will be, the basic substance of mathematics as well as the traditional subject matter of secondary school treatment of the subject. Someone once said that what Pythagoras proved 500 years before Christ and what somebody in Czechoslovakia proved last week may be of equal importance. This, says Albert E. Meder, executive director of the Commission, is perfectly true—but it does not mean that you have to learn everything that happened in between before you understand what is going on in the later developments.

Dr. Meder draws an analogy between the teaching of modern mathematics and a city's traffic problems as new suburbs and outlying developments spring up. The city remains the nerve center of the area, and must be kept in close and easy touch with the new regions. As traffic gets worse the city fathers put in one-way streets and stop lights and so on; eventually, they decide to tear down a lot of old buildings and put in a throughway which will let people get from the city to the environs quickly and safely. Mathematics, like our cities and their suburbs, has grown enormously; its applications have developed in wide new areas. So the core of the subject—the

algebra, geometry, trigonometry—has to be brought into closer relationship with new areas, new developments.

Consider the burgeoning new fields in mathematics. Mathematical logic and mathematical statistics, for example, were considered to be esoteric specialties a generation ago; today they are central in mathematical thought. Then too, mathematics research has been as dynamic as has that of chemistry, physics, or biology; but the layman finds it hard to grasp this in the case of math. He knows that chemistry has given him plastics; that physics has given him the power to destroy human life through atomic energy and biology the power to save it through antibiotics. The layman is less likely, however, to think of the analogous transformation of mathematics, although he has heard of giant computers and of the techniques of industrial quality control.

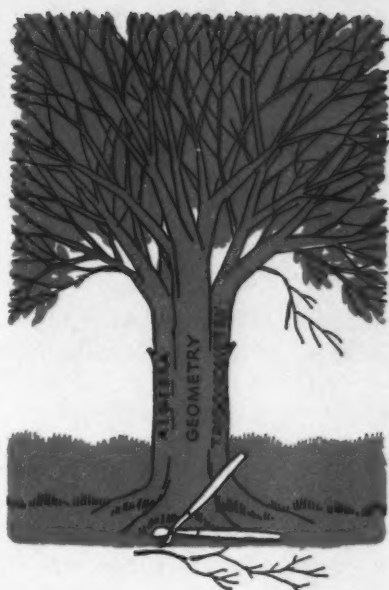
■ He should, too, be aware of one of the most remarkable achievements of recent research: the development of mathematical methods for dealing with phenomena in which chance plays a role. This has led to entirely new applications for mathematics; no longer is it the tool of only physicists and engineers. Today sociologists, psychologists, economists—all kinds of social scientists—use mathematical methods, and many business executives now feel that they cannot make sound management decisions without good training in math. And it goes without saying that mathematics has always been essential to the man working in the physical and biological sciences.

Perhaps more important than the new fields in mathematics is the change in the point of view toward the sub-

ject. Professor W. W. Sawyer says that the idea of the older mathematician was to find a trick to solve a new problem. Faced with another new problem, you searched for a new, probably unrelated, trick. Today, says Dr. Meder, the idea is "to search for insights into the nature of a problem, for patterns that the mind can recognize, for unifying principles that will reveal the underlying pattern."

One of these unifying principles—indeed a basic concept of modern mathematics—is that of "set." A mathematician, Dr. Meder points out, means by a "set" just exactly what you mean when you speak of a set of books or of dishes or a stamp collection. Usually, a mathematician will talk of a set of numbers, such as the set of all odd numbers; or of a set of points, such as the set of all points on a certain line. In the simpler applications of this concept, a child understands what a math teacher is talking about just as clearly as he understands which of his books belong to the set which is known as the Book of Knowledge and which don't. In fact, the concept is so simple that children intuitively grasp its meaning; the advantage of its use to clarify and simplify school mathematics is that the idea is both pervasive and profound—pervasive because it is involved in all branches of mathematics, profound in that it hits close to the foundations of all these branches.

Approached from this point of view, says Dr. Meder, algebra is no longer a "disconnected mass of memorized tricks but a study of mathematical structure; geometry no longer a body of theorems arranged in a precise order that can be memorized without understanding." This attitude—the search for patterns and relationships rather than trick formulas and theorems—should underlie the teaching of the revised curriculum suggested by the Commission; a revision which is, as Dr. Meder points out, "thoroughgoing but not radical."



Ninth grade algebra would be changed very little in content, except for the inclusion of work on inequalities and some deductive reasoning based on algebraic material.

■ The Commission recommends rather drastic changes in the tenth grade course, which is ordinarily plane geometry. This course would include the elements of plane and solid geometry, and an introduction to analytic geometry; a major objective is the formal treatment of deductive reasoning. To the question of how all this can be covered in one year, the Commission replies that the use of analytic geometry in itself saves a tremendous amount of time. In addition, it believes that once the idea of deductive reasoning has been made clear through a short chain of theorems, no useful purpose is served by exhaustive repetition. Adequate clues to proof should be accepted; students should not be expected to give a completely formal presentation of every newly introduced geometric fact.

In the eleventh grade course, traditionally algebra (sometimes including trigonometry), the Commission believes both intermediate algebra and

the elements of trig can easily be covered. To do this it would omit some obsolete material and, in particular, introduce a modern point of view in trigonometry. The logarithmic solution of triangles is no longer a major application of trig. The approach should be through vectors. This approach, according to Dr. Meder, is at the same time shorter, simpler, more useful, and more profound than the conventional treatment of trig.

Those students who take the twelfth grade course would be given one semester to be known as "elementary analysis" which will include a study of the polynomial, logarithmic, exponential, and circular and inverse circular functions, thus including the analytic aspects of trigonometry. For the second semester, the Commission recommends another new course, "probability and statistical inference." This is in recognition of the fact that this field represents one of the great advances of modern mathematics, and also the fact that in the mid-Twentieth Century, statistical inference (think of public opinion polls, radio and TV ratings, aptitude test scores) is as important as deductive reasoning, and affects all of us daily.

■ There is no reason, the Commission believes, why this new program should not be effectively introduced within the next five years for the great majority of college-bound high school students. It recognizes that in order to do this there must be appropriate training for teachers who are already teaching as well as for prospective teachers. The Commission itself, in fact, has prepared a statement, "The Education of Secondary School Mathematics Teachers," suggesting how this in- and pre-service training might be accomplished. It has also published a series of brief guides to help teachers over specific "rough spots" in planning for the new program, and has prepared a series of papers covering an introduction to

algebra, the concept of sets, a new organization for geometry, the nature of reasoning in mathematics, and a deductive sequence with natural numbers. A major educational film company is preparing a series of teacher-training films based on this material.

The Commission points out that if

the program is introduced, high school students will then be prepared for college work of true college level. More important, they will have a more adequate understanding of the real nature of "the discipline that has been called both the queen and the handmaiden of the sciences."

NEW GRANTS

Grants amounting to \$3,254,425 were voted by Carnegie trustees during the second quarter of this fiscal year, which began October 1, 1957.

The income for the fiscal year 1957-58 is now estimated at \$9,500,000. From this amount, \$1,981,250 has been set aside to meet commitments, including those for teachers' pensions, incurred in previous years. It is the Corporation's policy to spend all income during the year in which it is received.

Included among the grants voted during the last quarter are those listed below:

United States

American Institute for Research, for further support of a study of the recruitment of graduate students, \$8,000.

American Library Association, to assist the American Association of School Librarians to develop standards for school libraries, \$6,000.

Case Institute of Technology, to develop a new program in engineering education, \$106,600.

University of Chicago, toward a study of student culture at the University of Kansas Medical School, \$6,000.

University of Colorado, for support of the Inter-University Committee on the Superior Student, \$125,000.

Columbia University, toward further support of the general education program in Asian civilization, \$185,500.

Columbia University, for further

support of research in the field of national security policies, \$138,000.

Council for Financial Aid to Education, for further support, \$375,000.

Emory University, toward support of the Graduate Institute of Liberal Arts, \$96,825.

Institute for College and University Administrators, for further support of research and training programs in academic administration, \$95,000.

National Education Association, toward expenses of the annual conference of the National Commission on Teacher Education and Professional Standards, \$6,000.

University of North Carolina, toward support of a program for superior students, \$100,000.

North Central Association of Colleges and Secondary Schools, for a program for guidance and motivation of superior high school students, \$174,000.

Princeton University, for a comparative study of citizenship in modern democracies, \$130,000.

Stanford University, for research on the economic development of Africa to be conducted by the Food Research Institute, \$200,000.

Swarthmore College, for further support of a study of education for business, \$90,000.

Yale University, for an experimental program of teaching fellowships, \$120,000.

The trustees also appropriated the sum of \$750,000 to be allocated to col-

CARNEGIE CORPORATION OF NEW YORK

589 FIFTH AVENUE, NEW YORK 17 N. Y.

Carnegie Corporation of New York is a philanthropic foundation created by Andrew Carnegie in 1911 for the advancement and diffusion of knowledge and understanding. It has a basic endowment of \$135 million and its present assets, reckoned at cost value, are approximately \$192 million. The income from \$12 million of this fund may be used in certain British Commonwealth areas; all other income must be spent in the United States.

The Corporation is primarily interested in higher education and in certain aspects of public and international affairs. Grants are made to colleges and universities, professional associations, and other educational organizations for specific programs. In higher education, these include basic research, studies of educational developments, training opportunities for teachers and administrators, and other educational projects of an experimental nature. In public and international affairs, the Corporation is concerned primarily with research and training programs which promise increased understanding of the problems the nation faces and which provide better selection and training of young men and women who must deal with these problems.

Detailed descriptions of the Corporation's activities are contained in its annual reports, which usually are published in December.

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leges and universities for the improvement of undergraduate instruction.

Commonwealth

National Conference of Canadian Universities, for establishment of a research center for studies of higher education, \$100,000.

Royal Institute of International Affairs, toward expenses of delegates to the sixth Commonwealth Relations Conference, to be held in New Zealand in January, \$16,000.

University College of the West Indies, for a program of training in administration, \$150,000.

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